REMARKS

Applicants' representative thanks the Examiner for the courtesies extended during the telephonic conference on February 12, 2007, with Francis Dunn. During the conference, there was discussion regarding overcoming the rejections of the subject claims, including discussion regarding claims 1, 11, and 23, and more particularly, discussion regarding "a multiple active result set (MARS) header," and "a data field." There was also discussion regarding the Office Action Summary where claims 14-22, 24, and 25 were indicated as being allowed; however, the Examiner clarified and stated that the Office Action Summary should have indicated that those claims are withdrawn.

Claims 1-30 are currently pending, and claims 1-13, 23, and 26-30 are presently under consideration, in the subject application. Claims 1, 11, 12, and 23 have been amended as shown on pages 2-7 of the Reply. Claims 14-22, 24, and 25 have been withdrawn. No new matter has been added, and amendments made herein will not require a search.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 11-13 Under 35 U.S.C. § 101

Claims 11-13 stand rejected under 35 U.S.C. § 101 on the grounds that claim 11-13 are directed to non-statutory subject matter. It is requested that this rejection be withdrawn for at least the following reason. The subject claims produce a useful, concrete, and tangible result and are therefore within the bounds of statutory subject matter, in accordance with 35 U.S.C. § 101.

> Title 35, section 101, explains that an invention includes "any new and useful process, machine, manufacture or composition of matter."... Without question, software code alone qualifies as an invention eligible for patenting under these categories. *Eolas Techs., Inc. v. Microsoft Corp.*, 399 F.3d 1325, 1338-39 (Fed. Cir. 2005) (holding that 35 U.S.C. § 101 did not limit inventions or components of an invention to structural or physical components (*e.g.*, non-software components). Rather, every component, including software components, of every form of invention deserves

> the protection of § 271(f) because it is patentable subject matter under 35 U.S.C. § 101).

The claimed subject matter, as recited in the subject claims, produces a useful, concrete, and tangible result. For example, claim 11, as amended, recites: A ***computer-implemented system*** that facilitates communication in client/server networks comprising: ***a server device in communication with a client device via a tabular data stream (TDS) protocol in a network environment; and the TDS protocol comprising a query notification header with a data field that requests updates related to a query at a time the communication is initially established to facilitate communication between the server device and the client device***, the updates comprise information associated with at least a change to the query.

The claimed subject matter is a system that can be implemented by a computer and can include a client device and a server device. The system can facilitate communication between the client device and the server device in part by including, as part of the TDS protocol, a query notification header with a data field that can request updates regarding a query at the time the communication is established. The request can be for updates as to any changes with respect to the query. Such updates can facilitate mitigating having to periodically re-ask the server for information as to any changes to the initial query.

Thus, the system includes physical components, as it is a computer-implemented system, and further involves a client device and a server device. Further, the system can produce a useful, concrete, and tangible result, as it can utilize a query notification header with a data field to request updates related to a query, such as updates as to changes associated with the query, at the time the communication is initially established in order to facilitate communication between the client device and the server device.

In view of at least the foregoing, the subject claims are properly limited to statutory subject matter in accordance with 35 U.S.C. § 101, and the rejection should be withdrawn.

II. Rejection of Claims 11-13 Under 35 U.S.C. § 102(b)

Claims 11-13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Anand, *et al.* (US 5,974,416) ("Anand, *et al.*"). Withdrawal of this rejection is respectfully for at least the following reason. Anand, et al. does not disclose each and every element of the subject claims.

> For a prior art reference to anticipate, 35 U.S.C. § 102 requires that "***each and every element*** as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (*quoting Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)) (emphasis added).

The claimed subject matter relates to an enhancement of a Tabular Data Stream (TDS) protocol that can be employed for client/server communication networks. The claimed subject matter can employ a Multiple Active Result Sets (MARS) feature, which can include a data field header, for example. Such data field can identify, to a server, the number of pending requests known by a client, and thereby facilitate query synchronization, regardless of buffer sizes employed in the client-server communications network. The client's reporting of the number of pending requests to the server can facilitate synchronizing execution of queries, for example, where the server already has completed processing of previous requests. This can typically mitigate inconsistent server behavior related to instances where buffer zones are waiting to be read by the client.

In addition, the claimed subject matter can include a query notification header as part of the enhanced TDS protocol. At the time of establishing the query, the server can be asked to provide the client with future update results related to the query. As such, a requirement for periodically re-asking the server of any changes to the initial query can be mitigated. Accordingly, the manner of sending such notifications (*e.g.* channels for sending the notification), as well as the set up for notification is established at the time of the query, and does not require changes to be made on the client side. Moreover, the query notification feature allows creation of middle tier type caches, which can be transparent to the client.

In particular, independent claim 11, as amended, recites: ***the TDS protocol comprising a query notification header with a data field that requests updates related to a query at a time the communication is initially established to facilitate communication between the server device and the client device, the updates comprise information associated with at least a change to the query***. Anand, *et al.*, does not disclose this distinctive feature of the claimed subject matter.

Rather, Anand, *et al.* discloses a tabular data stream format, specifically, the Advanced Data TableGram (ADTG) format, for the transmission of tabular data between a client and a server. (*See* Abstract). Anand, *et al.* uses the ADTG format to marshal data for transfer between a client and server. (*See* col. 2, lns. 12-16). The marshaled resultsets of database queries, *i.e.*, table rows containing updates made to them by applications, and status information for each row that contained the changes, are converted into an ADTG message. (*See* col. 2, lns. 16-21). In addition to receiving query results from the server, the client updates the database using an ADTG message containing both the updated data and the original data. (*See* col. 3, lns. 5-8). Anand, *et al.* further discloses utilizing tokens, including a token, whose purpose is to establish global parameters for the ADTG message, that may include a field for tracking updates to the format of ADTG messages. (*See* col. 8, lns. 12-22).

However, unlike the claimed subject matter, Anand, *et al.* is silent regarding a data field that ***requests*** updates related to a query, such as information regarding changes to the query, ***at a time the communication is initially established***. Instead, Anand, *et al.* simply discloses ***tracking*** updates. ***Requesting*** updates related to a query is clearly different from ***tracking*** updates. Further, Anand, *et al.* fails to disclose that the requests for updates are made at the time the communication is initially established. Moreover, Anand, *et al.* is silent regarding requesting updates to obtain updated information as to any changes to the query.

In contrast, the claimed subject matter can include a query notification header with a data field that can request updates related to a query at the time the communication is initially established. The request can be for updates as to any changes with respect to the query. Such updates can facilitate communication between the client device and the

server device, as such updates can facilitate mitigating having to periodically re-ask the server for information as to any changes to the initial query.

In view of at least the foregoing, Anand, *et al.* does not disclose each and every element recited in independent claim 11 (and associated dependent claims 12 and 13). Accordingly, it is believed that the subject claims are in condition for allowance, and the rejection should be withdrawn.

III. Rejection of Claims 1-2, 4-9, 23 and 26-28 Under 35 U.S.C. § 103(a)

Claims 1-2, 4-9, 23 and 26-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Anand, *et al.* in view of Jordan, II, *et al.* (US 5,415,805) ("Jordan, II, *et al.*").

> To reject claims in an application under § 103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* MPEP § 706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *See In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The claimed subject matter generally relates to an enhanced Tabular Data Stream (TDS) protocol that can facilitate communication between a client device and a server device. In particular, independent claim 1 (and similarly independent claim 23) recites: a tabular data stream (TDS) protocol that comprises: ***a multiple active result set (MARS) header, and a data field that is part of the MARS header and identifies a number of pending requests known by the client device to the server device***. Anand, *et al.* and Jordan, II, *et al.*, alone or in combination, do not disclose, teach, or suggest this distinctive feature of the claimed subject matter.

Anand, *et al.* discloses a TDS format for the transmission of tabular data between a client and a server. (*See* Abstract). However, unlike the claimed subject matter, Anand, *et al.* fails to disclose a TDS protocol that comprises a data field that identifies, to the server device, the number of pending requests known by the client device. Rather, Anand, *et al.* simply discloses that when a client process requests data from a database, the script or application issues a query to the server. (*See* col. 5, lns. 15-20). Anand, *et al.* is silent regarding a TDS protocol that includes such a data field, as claimed, let alone identifying the number of pending requests known by the client device. Anand, *et al.* is only concerned with ***the current query*** issued by the script or application, and ***not the number of requests*** pending at a given time.

Further, Jordan, II, *et al.* fails to teach or suggest such distinctive functionality, as claimed. Rather, Jordan, II, *et al.* relates to a process in the memory of a processor that purports to enhance memory allocation and memory copying during the process of reconstructing a data structure. (*See* col. 1, lns. 29-32). Jordan, II, *et al.* teaches that a computer can construct a data structure on a first computer for use in accessing information from a database on a second computer by obtaining a memory requirement data structure from the database of the first computer and constructing a communication buffer containing the memory requirement data structure and information from the database. (*See* col. 1, lns. 32-39). The communication buffer can then be transmitted to the second computer. (*See* col. 1, lns. 39-40). The second computer determines the memory requirements for the data structure based on the information in the communication buffer, and a data structure is built based on the memory requirement data structure on the second computer using the memory already allocated to the communication buffer in the second computer. (*See* col. 1, lns. 40-47).

However, Jordan, II, *et al.* fails to teach or suggest a data field that identifies the number of pending requests known by the client and communicating such information to the server. Instead, Jordan, II, *et al.* teaches allocating memory on the server side in order to store a data string containing data structures being sent to the server, based on memory requirement information included in the communication buffer sent to the server. (*See* col. 2, ln. 49 – col. 3, ln. 11). Thus, Jordan, II, *et al.* does not relate to the number of pending requests, but rather the total amount of memory to be allocated for all

data in the data string that will be stored in and sent *via* the communication buffer of the client. (*See id.*)

In contrast, the claimed subject matter can include a TDS protocol that includes a data field that can identify, to the server device, the number of pending requests known by the client device. The number of requests reported by the client can facilitate synchronizing the execution of requests currently pending between client and server. (*See* p. 3, lns. 27-30). This can mitigate inconsistent server behavior related to instances where buffer zones are waiting to be read by the client. (*See* p. 3, lns. 30-31).

Additionally, amended claim 1 (and similarly independent claim 23) recites: ***the MARS header is employed to transmit, to the server device, the number of pending requests known by the client device to facilitate synchronization of execution of queries to facilitate communication between the client device and the server device, based at least in part on the number of pending requests known by the client device, regardless of buffer size for the client device and the server device***. Anand, *et al.* and Jordan, II, *et al.*, alone or in combination, fail to disclose these distinctive features of the claimed subject matter.

Rather, Anand, *et al.* discloses ***marshaling*** a query, as opposed to ***synchronizing execution of queries***, as in the claimed subject matter. Anand, *et al.* expressly defines marshaling as "the process of packaging up the data so that when it is sent from one process to another, the receiving process can decipher the data." (Anand, *et al.*, col. 2, lns. 10-12). Thus, Anand, *et al.* is only concerned with the process of packaging up data so that it can be deciphered when received. However, Anand, *et al.* does not address synchronizing execution of queries, which can relate to the timing of when a query is to be executed.

Further, Jordan, II, *et al.* relates to allocating memory on the server side in order to store a data string containing data structures being sent to the server, based on memory requirement information included in the communication buffer sent to the server. (*See* col. 2, ln. 49 – col. 3, ln. 11). Thus, Jordan, II, *et al.* does not teach or suggest synchronizing the execution of multiple queries, but instead teaches communicating, to the server, the amount of memory to be allocated for a data string that is to be sent from the client to the server.

In contrast, the claimed subject matter can employ ***a MARS header that can transmit, to the server device, the number of pending requests known by the client device***. Transmitting information regarding the number of pending requests to the server device, can facilitate synchronizing the execution of queries and can thereby facilitate communication between the client device and server device, as synchronization of the execution of queries can be based at least in part on the number of pending requests known by the client device.

Further, Anand, *et al.* is silent regarding synchronizing execution of queries, ***based on the number of pending requests known by the client device***. The Examiner correctly concedes this as the Examiner states that Anand, *et al.* "fails to explicitly disclose steps of based at least in part on the number of pending requests known by the client device regardless of buffer size for the client device and the server device." (*See* Office Action dated January 4, 2007, p. 6, lns. 20-21) (emphasis in original). However, the Examiner contends that Jordan, II, *et a*l. discloses such functionality of the claimed subject matter. (*See* Office Action dated January 4, 2007, p. 6, lns. 21-25). Applicants' representative respectfully submits that the Examiner's contention is erroneous.

Rather, Jordan, II, *et al.* teaches sending information from the client to the server regarding an amount of memory to be allocated by the server to accommodate the data string being communicated to the server, so that the server can allocate the required amount of memory to receive the data string. (*See* col. 2, ln. 49 – col. 3, ln. 18). Jordan, II, *et al.* simply identifies the amount of memory to be allocated by the server, and not the number of pending requests known by the client.

Moreover, the Examiner concedes that Anand, *et al.* fails to disclose: ***regardless of buffer size for the client and the server***, as claimed. (*See* Office Action dated January 4, 2007, p. 6, lns. 20-21). The Examiner contends, however, that Jordan, II, *et al.* discloses "buffer size for the client device and the server device." (*See* Office Action dated January 4, 2007, p. 6, lns. 22-28).

However, the claimed subject matter comprises a MARS header that can be employed to synchronize execution of queries ***regardless of buffer size*** for the client and the server. Jordan, II, *et al.* fails to disclose this distinctive feature of the claimed subject matter.

Jordan, II, *et al.* relates to a process in the memory of a processor that purports to enhance memory allocation and memory copying during the process of reconstructing a data structure. (*See* col. 1, lns. 29-32). Jordan, II, *et al.* only discloses that the server can calculate the total memory space needed for data structures based on the size of a communication buffer. (*See* col. 5, lns. 8-17). The mere mentioning of a size of a communication buffer does not disclose, teach or suggest "***regardless*** of buffer size for the client device or the server device," as in the claimed subject matter. Quite to the contrary, Jordan, II, *et al.* ***is very much concerned with the size*** of the communication buffer, as the memory needed and the size of the buffer are both examined to determine whether the size of the buffer is sufficient to meet the memory needs. (*See* col. 5, lns. 8-17; col. 6, lns. 21-38; and Fig. 4).

Conversely, the claimed subject matter ***is not concerned with the buffer size***, as it relates to synchronizing execution of queries, ***regardless of buffer size*** for the client device and the server device.

In view of at least the foregoing, Anand, *et al.* and Jordan, II, *et al.*, alone or in combination, do not disclose, teach, or suggest each and every element recited in independent claims 1 and 23 (and associated dependent claims 2, 4-9, and 26-28). Accordingly, it is believed that the subject claims are in condition for allowance, and the rejection should be withdrawn.

IV. Rejection of Claims 3, 10, 29, and 30 Under 35 U.S.C. § 103(a)

Claims 3, 10, 29, and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Anand, *et al.* (US 5,974,416) in view of Jordan, II, *et al.* (US 5,412,805) and further in view of Clegg, *et al.* (US 6,356,946) ("Clegg, *et al.*"). This rejection should be withdrawn for at least the following reason. Anand, *et al.*, Jordan, II, *et al.*, and Clegg, *et al.*, alone or in combination, do not disclose, teach, or suggest all the limitations of the subject claims. Claims 3, 10, 29, and 30 depend from independent claim 1. Clegg, *et al.* fails to cure the aforementioned deficiencies of Anand, *et al.* and Jordan, II, *et al.* with respect to independent claim 1. Accordingly, it is believed that claims 3, 10, 29, and 30 are in condition for allowance, and the rejection should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063[MSFTP619US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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